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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/451,965	11/30/1999	ROBERT F. SENZIG	15-CT-4697	9713

7590 12/18/2003

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EXAMINER	
SONG, HOON K	
ART UNIT	**PAPER NUMBER**
2882	

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/451,965	SENZIG ET AL.	
	Examiner	Art Unit	
	Hoon Song	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 September 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 December 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-36 rejected under 35 U.S.C. 102(e) as being anticipated by Nambu et al. (US 6196715B1).

Regarding claims 1 and 36, Nambu teaches a method of generating an image of an object using a multimode imaging system configured to operate in a plurality of modes of operation including at least three modes (column line 8+), the multimode imaging system including a source assembly, a detector assembly, and a mechanical means for positioning the source assembly and the detector assembly, the source assembly attached to the mechanical means for positioning and including an x-ray source configured to emit x-ray signals, the detector assembly attached to the mechanical means for positioning and including a detector (column 53 line 15+), said method comprising the steps of

selecting a first mode of operation comprising a computed tomography volume mode (column 53 line 35+ and column 58 line 26+);

positioning the source assembly and the detector assembly in a first position using the mechanical positioning means for the first mode of operation, wherein the source assembly and the detector assembly are attached to the mechanical positioning means (figure 70);

selecting a second mode of operation (Fluoroscopic mode, column 55 line 27+);

positioning the source assembly and the detector assembly for the second mode of operation in a second position different from the first position using the mechanical positioning means, wherein the source assembly and the detector assembly are attached to the mechanical positioning means (column 55 line 30+); and

generating an image of the object for each determined mode of operation (column 6 line 8+).

Regarding claim 2, Nambu teaches that said selecting a second mode of operation, comprises the step of electing at least one of an x-ray fluoro mode and a tomosynthesis mode (column 53 line 15+).

Regarding claim 3, Nambu teaches that positioning the source assembly and the detector assembly, said method comprises the step of rotating the detector assembly and the source assembly about the object (C-arm, figure 68-71).

Regarding claim 4, Nambu teaches an imaging system for generating an image of an object, said imaging system configured to operate in a plurality of modes of operation including at least three modes and comprising:

a source assembly (12) comprising a movable x-ray source configured to emit x-ray signals (figure 11);

a detector assembly (14) comprising a movable detector (figure 11);

a mechanical positioning means (38a) for positioning said source assembly and said detector assembly relative to the object (P), said source assembly movably attached to said mechanical positioning means and said detector assembly movably attached to said mechanical positioning means (figure 11); and

a controller (40) enabling an operator to selectively operate said system in a plurality of modes comprising a computed tomography volume mode and generate an image of the object for each determined mode of operation (column 53 line 15+).

Regarding claim 5, Nambu teaches that said plurality of modes further comprises at least one of an x-ray fluoro mode and a tomosynthesis mode (column 53 line 32+).

Regarding claim 6, Nambu teaches that said source is configured to move relative to said positioning means to alter a distance from said source to said detector (figure 16).

Regarding claim 7, Nambu teaches that said detector is configured to move relative to said positioning means to alter a distance from said detector to said source (figure 15).

Regarding claim 8, Nambu teaches that said source and said detector are aligned along a plane of interest, and wherein at least one of said source and said detector configured to move relative to other said assembly and said positioning means to alter said plane of interest (figure 15).

Regarding claim 9, Nambu teaches that a table for supporting the object, said source and said detector are movable relative said table (figure 15).

Regarding claim 10, Nambu teaches that said positioning means is movable relative to said table (figure 15).

Regarding claim 11, Nambu teaches that said detector comprises at least one detector panel (figure 42a).

Regarding claim 12, Nambu teaches that at least one said detector panel is rotatable relative to said positioning means (figure 15).

Regarding claim 13, Nambu teaches that said detector comprises a first detector panel and a second detector panel (figure 42a).

Regarding claim 14, Nambu teaches that first detector panel is angularly positioned relative to said second detector panel (figure 42a).

Regarding claim 15, Nambu teaches that said positioning means comprises a base and an arm movably coupled to said base (C-arm, figure 68).

Regarding claim 16, Nambu teaches that said arm comprises a first end portion and a second end portion wherein said x-ray source assembly coupled to said arm first end portion, and wherein said detector assembly coupled to said arm second end portion (C-arm, figure 68).

Regarding claim 17, Nambu teaches that said positioning means comprises a base and a gantry rotatably coupled to said base (C-arm, figure 68).

Regarding claim 18, Nambu teaches an imaging system for generating an image of an object, said imaging system comprising a base, a mechanical positioning means movably attached to said base, an x-ray source assembly comprising an x-ray source configured to emit x-ray signals and attached to said mechanical positioning means,

and a detector assembly comprising a detector attached to said mechanical positioning means, said system (figure 68-71) configured to:

enable an operator to select a mode of operation from a plurality of modes comprising a computed tomography volume mode of the imaging system (column 53 line 35+ and column 58 line 26+);

alter the position of said detector assembly and said source assembly relative to said other assembly and the object based on the selected mode (column 58 line 28+); and

generate an image of the object (column 58 line 28+).

Regarding claim 19, Nambu teaches that to enable the operator to select a mode said system is configured enable the operator to select at least one of an x-ray fluoro mode and a tomosynthesis mode (column 55 line 30+).

Regarding claim 20, Nambu teaches that altering the position of said detector assembly and said source assembly, said system is configured to rotate said positioning means relative to said base so that said detector assembly and said source assembly are rotated about the object (column 58 line 28+).

Regarding claim 21, Nambu teaches that altering the position of said detector assembly and said source assembly, said system is configure to move at least one of said source and said detector relative to said other assembly to alter a distance between said source and said detector (figure 15).

Regarding claim 22, Nambu teaches that said source and said detector are aligned along a plane of interest, and wherein to alter the position of said detector

assembly and said source assembly, said system is configured to move at least one of said source and said detector relative to said other assembly to alter the plane of interest (figure 15).

Regarding claim 23, Nambu teaches that move at least one of said source and said detector relative to said other assembly, said system is configured to translate at least one of said source and said detector parallel to the plane of interest (figure 22).

Regarding claim 24, Nambu teaches that a table for supporting the object, and wherein to alter the position of said detector assembly and said source assembly, said system is configured to move said detector and said source relative to said table (figure 15).

Regarding claim 25, Nambu teaches that move said detector assembly and said source assembly relative to said table, said system is configured to rotate said detector assembly and said source assembly about said table (figure 15).

Regarding claim 26, Nambu teaches that generate an image of the object, said system is configured to radiate x-ray signals from said x-ray source toward said detector (figure 15).

Regarding claim 27, Nambu teaches that generate an image of the object, said system is further configured to collect image data (column 30 line 35+).

Regarding claim 28, Nambu teaches that said detector assembly comprises at least one detector panel, and wherein to collect image data, said system is configured to detect x-ray signals utilizing a portion of at least one of said detector panel (figure 42a).

Regarding claim 29, Nambu teaches that detect x-ray signals utilizing a portion of at least one of said detector panel, said system is configured to alter a position of at least one of said detector panel (figure 42a).

Regarding claim 30, Nambu teaches that said detector assembly comprises a first detector panel and a second detector panel, and wherein to collect image data, said system is configured to angularly position said first detector panel relative to said second detector panel (figure 42a).

Regarding claim 31, Nambu teaches that angularly position said first detector panel relative to said second detector panel, said system is configured to position said first detector panel at an obtuse angle relative to said second detector panel (figure 42a).

Regarding claim 32, Nambu teaches that angularly position said first detector panel relative to said second detector panel, said system is configured to position said first detector panel at an acute angle relative to said second detector panel (figure 42a).

Regarding claim 33, Nambu teaches that angularly position said first detector panel relative to said second detector panel, said system is configured to position said first detector panel perpendicular to said second detector panel (figure 42a).

Regarding claim 34, Nambu teaches that said positioning means comprises an arm having a first end portion and a second end portion, wherein said x-ray source assembly coupled to said arm first end portion, and wherein said detector assembly coupled to said arm second end portion (figure 15).

Regarding claim 35, Nambu teaches that said positioning means comprises a gantry rotatably coupled to said base (figure 15).

Response to Arguments

Applicant's arguments filed on September 5, 2003 have been fully considered but they are not persuasive.

Applicant argues that Nambu et al. (US 6196715B1) fails to teach the claimed invention as amended, however Nambu et al. still teaches the amended claims.

Regarding claims 1 and 36, Nambu teaches a method of generating an image of an object using a multimode imaging system configured to operate in a plurality of modes of operation including at least three modes (column line 8+), the multimode imaging system including a source assembly, a detector assembly, and a mechanical means for positioning the source assembly and the detector assembly, the source assembly attached to the mechanical means for positioning and including an x-ray source configured to emit x-ray signals, the detector assembly attached to the mechanical means for positioning and including a detector (column 53 line 15+), said method comprising the steps of

selecting a first mode of operation comprising a computed tomography volume mode (column 53 line 35+ and column 58 line 26+);

positioning the source assembly and the detector assembly in a first position using the mechanical positioning means for the first mode of operation, wherein the source assembly and the detector assembly are attached to the mechanical positioning means (figure 70);

selecting a second mode of operation (Fluoroscopic mode, column 55 line 27+);

positioning the source assembly and the detector assembly for the second mode of operation in a second position different from the first position using the mechanical positioning means, wherein the source assembly and the detector assembly are attached to the mechanical positioning means (column 55 line 30+); and

generating an image of the object for each determined mode of operation (column 6 line 8+).

Regarding claim 4, Nambu teaches an imaging system for generating an image of an object, said imaging system configured to operate in a plurality of modes of operation including at least three modes and comprising:

a source assembly (12) comprising a movable x-ray source configured to emit x-ray signals (figure 11);

a detector assembly (14) comprising a movable detector (figure 11);

a mechanical positioning means (38a) for positioning said source assembly and said detector assembly relative to the object (P), said source assembly movably attached to said mechanical positioning means and said detector assembly movably attached to said mechanical positioning means (figure 11); and

a controller (40) enabling an operator to selectively operate said system in a plurality of modes comprising a computed tomography volume mode and generate an image of the object for each determined mode of operation (column 53 line 15+).

Regarding claim 18, Nambu teaches an imaging system for generating an image of an object, said imaging system comprising a base, a mechanical positioning means

movably attached to said base, an x-ray source assembly comprising an x-ray source configured to emit x-ray signals and attached to said mechanical positioning means, and a detector assembly comprising a detector attached to said mechanical positioning means, said system (figure 68-71) configured to:

enable an operator to select a mode of operation from a plurality of modes comprising a computed tomography volume mode of the imaging system (column 53 line 35+ and column 58 line 26+);

alter the position of said detector assembly and said source assembly relative to said other assembly and the object based on the selected mode (column 58 line 28+); and

generate an image of the object (column 58 line 28+).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoon Song whose telephone number is 703-308-2736. The examiner can normally be reached on 8:30 AM - 5 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on 703-308-4858. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

DAVID V. BRUCE
PRIMARY EXAMINER

Hoon Song HKS